

## RUNNING A COMMUNICATION PROTOCOL STATE MACHINE THROUGH A PACKET CLASSIFIER

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### ABSTRACT

10           One embodiment of the invention relates to processing communication packets.  
A communication packet belongs to a communication data structure (called "conn")  
which is unique to a connection including the communication packet. The conn also  
contains an event list which is a sequential list of functions necessary to process the  
packet. An event list is selected from a database based on the protocol layers  
15           necessary to process the packet and typically contains as many functions as there are  
layers in between. Therefore, each layer has a functional entry point as an event in  
the event list. The event list identifies a plurality of communication modules specific for  
the connection and an ordering thereof. The packet is processed through the plurality  
of modules based on the ordering. The event list is manipulated to enable a module of  
20           the plurality of communication modules to enter one of a plurality of its operational  
states.